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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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EXAMINER	
FREAY, CHARLES GRANT	

ART UNIT	PAPER NUMBER
3746	

DATE MAILED: 10/03/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/750,435	NICOLAS, BERNARD ET AL.	
	Examiner	Art Unit	
	Christopher H. Orders	3746	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *13 June 2005*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-8* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1 and 4-7* is/are rejected.

7)☒ Claim(s) *2,3 and 8* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☒ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *30 December 2003* is/are: a)☐ accepted or b)☒ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date *3/25/04, 6/13/05*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Information Disclosure Statement

1. Patents 4,137,023 (pg. 1, ln. 31) and 5,458,474 (pg. 2, ln. 3) are not listed in the information disclosure statement. The listing of references in the specification is not a proper information disclosure statement. 37 CFR 1.98(b) requires a list of all patents, publications, or other information submitted for consideration by the Office, and MPEP § 609 A(1) states, "the list may not be incorporated into the specification but must be submitted in a separate paper." Therefore, unless the references have been cited by the examiner on form PTO-892, they have not been considered.

Drawings

2. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because they include the following reference character(s) not mentioned in the description: "S" (fig. 1). Corrected drawing sheets in compliance with 37 CFR 1.121(d), or amendment to the specification to add the reference character(s) in the description in compliance with 37 CFR 1.121(b) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The replacement sheet(s) should be labeled "Replacement Sheet" in the page header (as per 37 CFR 1.84(c)) so as not to obstruct any portion of the drawing figures. If the changes are not accepted by the examiner, the

applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Specification

3. The disclosure is objected to because of the following informalities:

- The gap between "pump" and "having" (pg. 3, ln. 1-3) should be removed for proper clarity.
- The recitation of "teeth 30" (pg. 4, ln. 13 and ln. 14) is presumed to be --teeth 30, 30'-- to properly reference the drawings.
- The gap between the end of the first paragraph on pg. 5 and the beginning of the second paragraph on page 5 should be removed for clarity.

Appropriate correction is required.

Claim Objections

4. Claims 4 and 6 are objected to because of the following informalities: The recitation of "said transverse section" (claim 4, ln. 2) is presumed to be said central portion for proper antecedent basis. The recitation of "a die channel in said outlet chamber of said die" (claim 6, ln. 1-2) is presumed to be --a die channel in said die-- to properly maintain that the outlet chamber is contained within the gear pump housing as indicated in claim 4, from which claim 6 depends. Appropriate correction is required.

Claim Rejections - 35 USC § 102

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

6. Claims 1, 4, and 5 are rejected under 35 U.S.C. 102(a) as being anticipated by Witte (DE10148476A1).

Witte teaches a gear (fig. 4) for a gear pump having an inlet chamber (para. 0002; inlet), a metering chamber (para. 0002; formed by the housing) and an outlet chamber (para. 0002; discharge), said gear (fig. 4) being located in said metering chamber (para. 0002; formed by the housing) and having a pair of herringbone gear teeth (fig. 4) spaced apart at a predetermined pitch, each of said gear teeth (fig. 4) having helical side portions and a curved central portion connecting said side portions whereby material conveyed by said gear pump is smoothly squeezed out of the space between said gear teeth at said curved portion of each of said teeth and then moved axially outward and over said gear teeth into said outlet chamber (para. 0002, para. 0003, para. 0011).

Witte further teaches a gear pump, said gear pump having a housing (para. 0002; housing) with an inlet chamber (para. 0002; inlet), a metering chamber (para. 0002; formed by the housing) and an outlet chamber (para. 0002; discharge), a pair of gears (fig. 4) rotatably mounted in said metering chamber (para. 0002; formed by the housing) with each of said gears (fig. 4) having a plurality of herringbone gear teeth

spaced apart at a predetermined pitch for meshing engagement with gear teeth of the other of said gears (fig. 4), each of said gear teeth having helical side portions and a curved central portion connecting said side portions, and means for rotating said gears (as inherently required for operation as a pump as described; para. 0002, para. 0003; para. 0011) to carry said material from said inlet chamber (para. 0002; inlet) through said metering chamber (para. 0002; formed by the housing) into said outlet chamber (para. 0002; discharge) and for sealing the space between said outlet chamber (para. 0002; discharge) and said inlet chamber (para. 0002; inlet) upon said meshing engagement of said gear teeth of said pair of gears (fig. 4); an inlet opening (as inherently required for operation as described; para. 0002, para. 0003, para. 0011) in said inlet chamber (para. 0002; inlet) for receiving said material to fill said inlet chamber (para. 0002; inlet) during operation of said gear pump.

Additionally, a recitation with respect to the material intended to be worked upon by a claimed apparatus ("elastomeric material") does not impose any structural limitations upon the claimed apparatus which differentiates it from a prior art apparatus satisfying the structural limitations of the claims, as is the case here. Further, the recitation of "feeding elastomeric material to a die providing components for building a tire" appears only in the introduction of the claim, and thus is treated as intended use, and does not add limitations to claim 4.

Claim Rejections - 35 USC § 103

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

8. Claims 1 and 4-7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ikegami (6,468,067) in view of Witte (DE10148476A1). Although claims 1, 4, and 5 are rejected above as broadly interpreted, they are additionally rejected as being obvious.

Ikegami teaches a gear (22, 23) for a gear pump (20) having an inlet chamber (21a upstream of the gears), a metering chamber (the area surrounding 22 and 23 in housing 21) and an outlet chamber (21a downstream of the gears), said gear (22, 23) being located in said metering chamber and having a pair of gear teeth spaced apart at a predetermined pitch (fig. 1), whereby material conveyed by said gear pump (20) is smoothly squeezed out of the space between said gear teeth (22, 23) and then moved into said outlet chamber (21a downstream of the gears).

Ikegami further teaches a gear pump (20) for feeding elastomeric material (col. 2, ln. 20-38; rubber) to a die (24) providing components for building a tire (col. 1, ln. 16-29), said gear pump (20) having a housing (21) with an inlet chamber (21a upstream of the gears), a metering chamber (the area surrounding 22 and 23 in housing 21) and an outlet chamber (21a downstream of the gears), a pair of gears (22, 23) rotatably mounted in said metering chamber with each of said gears (22. 23) having a plurality of

gear teeth spaced apart at a predetermined pitch (fig. 1) for meshing engagement with gear teeth of the other of said gears (22, 23), and means (shafts connected to 22 and 23; fig. 1) for rotating said gears (22, 23) to carry said elastomeric material (col. 2, ln. 20-38; rubber) from said inlet chamber (21a upstream of the gears) through said metering chamber (the area surrounding 22 and 23 in housing 21) into said outlet chamber (21a downstream of the gears) and for sealing the space between said outlet chamber (21a downstream of the gears) and said inlet chamber (21a upstream of the gears) upon said meshing engagement of said gear teeth of said pair of gears (22, 23) (fig. 1); an inlet opening (at the connection to 17) in said inlet chamber (21a upstream of the gears) for receiving said elastomeric material (col. 2, ln. 20-38; rubber) to fill said inlet chamber (21a upstream of the gears) during operation of said gear pump (20) (fig. 1); a die channel (fig. 1) in said die (24) for supplying elastomeric material (col. 2, ln. 20-38; rubber) of a desired cross section.

Ikegami additionally teaches a method of pumping elastomeric material (col. 2, ln. 20-38; rubber) through a gear pump (20) having an inlet chamber (21a upstream of the gears), an outlet chamber (21a downstream of the gears) and a metering chamber (the area surrounding 22 and 23 in housing 21), a pair of gears (22, 23) having gear teeth (fig. 1) disposed in said metering chamber (the area surrounding 22 and 23 in housing 21) at a predetermined pitch (fig. 1), comprising feeding said material (col. 2, ln. 20-38; rubber) under pressure into said inlet chamber (21a upstream of the gears), rotating said gears (22, 23) to convey said material (col. 2, ln. 20-38; rubber) through said metering chamber (the area surrounding 22 and 23 in housing 21) into said outlet

chamber (21a downstream of the gears) and smoothly squeezing said material out of the space between said meshing gear teeth into said outlet chamber (21a downstream of the gears) as said gear teeth (fig. 1) seal the space between said outlet chamber (21a downstream of the gears) and said inlet chamber (21a upstream of the gears) (fig. 1).

Ikegami does not expressly teach herringbone gear teeth spaced apart at a predetermined pitch; and each of said gear teeth having helical side portions and a curved central portion connecting said side portions whereby material conveyed by said gear pump is smoothly squeezed out of the space between said gear teeth at said curved portion of each of said teeth and then moved axially outward and over said gear teeth into said outlet chamber. However, Witte teaches herringbone gear teeth (fig. 4) spaced apart at a predetermined pitch (fig. 4); and each of said gear teeth (fig. 4) having helical side portions and a curved central portion connecting said side portions whereby material conveyed by said gear pump is smoothly squeezed out of the space between said gear teeth (fig. 4) inherently at said curved portion of each of said teeth and then moved axially outward and over said gear teeth into an outlet chamber (para. 0002; discharge) (para. 0002, para. 0003, para. 0011). It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the gear teeth configuration of Witte with the gear pump of Ikegami for the benefit of pumping a material without creating a disturbing center strip formation (Witte para. 0011).

Allowable Subject Matter

9. Claims 2, 3, and 8 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Conclusion

10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Christopher H. Orders whose telephone number is (571) 272-7163. The examiner can normally be reached on Monday-Friday, 7:30am-4pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Timothy S. Thorpe can be reached on (571) 272-4444. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

11. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

CHO
6/28/2005
CHO

Timothy S. Thorpe
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